This Page Is Inserted by IFW Operations
and is not a part of the Official Record

# BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

## IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.**

N° 28,013 A.D. 1907

Duplicate.

*Date of Application, 19th Dec., 1907—Accepted, 17th Dec., 1908*

## COMPLETE SPECIFICATION.

### Improvement in Folding Pocket Maps, Charts, Diagrams and the like.

I, Dr. Ivan Uschakoff of Helsingfors, Finland Professor, do hereby declare the nature of my said invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in folding maps, charts, and diagrams, time tables, and the like of the kind which are divided into sections by folds running at right angles, enabling the map or the like to be folded in accordion fashion, some of the folds being slit so as to allow a group of sections being unfolded or opened out at the desired part independently of the remaining groups of sections; and which are provided with index tabs for indicating the various rows of sections.

The object of this invention is to effect improvements whereby to facilitate the inspection of an area which appears on two or more adjoining sections.

The accompanying drawings illustrate the invention.

Fig. 1 is a front view of a map spread out according to this invention.

Fig. 2 is a view of the lower edge of the map partly folded together in accordion-like fashion.

Fig. 3 is a view of the map partly folded.

Fig. 4 is a view of the upper edge of Fig. 3.

Fig. 5. and Fig. 6 represent views of the map partly folded.

Figs. 7, 8, 9 and 10 are views of the edges of the maps seen in front and laterally, containing a greater number of folding sections than the map illustrated in maps Figs. 1—6.

Fig. 11 is a front view of the map entirely folded up according to Fig. 1—6.

In Fig 1 the map is divided by two folds $b^1$ $b^1$ into three strip sections, A, B, and C, running horizontally. The sections are distinguished by a differentiated shading. The vertical folds $b$, $b$, and $a$, $a^1$, divide the strips A, B, C, into the parts $A^1$ $A^2$ . . . . up to $A^8$, the parts $B^1$ $B^2$ . . . . up to $B^8$ and $C^1$ $C^2$ . . . . up to $C^8$.

According to this invention the folds $a$ $a^1$ of all the strips except an intermediate strip are slit up to said intermediate strip: thus in Fig. 1 the strips A and C are slit and the central or intermediate strip B is unslit.

The folding of the map is effected by the upper strip A being first folded behind the strip B and the lower strip C behind and over A and B, and the superimposed strips A, B, C, being then folded in accordion-like fashion. The three strips A, B, C are thus so folded behind one another that the unprinted back side of the two outer strips A and C faces the unprinted back side of the central strip B.

This system of folding the strips, in the case of the maps which are not slit and the accordion-like folding of the strips is already known. In the case of such maps, however, it is only possible to inspect the sections of the central strip B or of one of the strips A and C, say the first strip A, because the other strip C is covered by the strip A lying on it. In order to inspect the sections

[*Price 8d.*]

of the strip C or the connecting area of the strips adjoining each other, it is necessary to unfold the whole map. By slitting the strips A and C, in accordance with this invention, the above objections are done away with.

In Fig. 1 parts $D^1$ and $D^2$ illustrate the known front and back covers of the folded map. *c* are small pieces of linen or the like which can be stuck across the extremity of the slit folds *a*, $a^1$ for the purpose of preventing any further tearing of the slits.

The whole map should preferably be mounted on linen and then it may be advisable to leave spaces between each section, as shown in the drawings, for the folds and slits, in order to facilitate the folding of the map. These spaces however, may also be dispensed with, so that any ordinary map may be adapted to this invention.

The back cover $D^2$ may also be arranged so as to be capable of being folded against the cover $D^1$ itself, in which case it would lie behind the $B^1$ shown in Fig. 1.

The map entirely folded up is illustrated in Fig. 11. The map is used in the following manner:

If the book is closed on the right side, the double sections $B^2$, $B^3$ or $B^4$, $B^5$ *etc.* (Fig. 6) or the first or last separate sections $B^1$ or $B^6$ of the central strip B (Fig. 6) are ready for use. In order to conveniently find the desired section index flaps may be provided on the right side of the sections of the map. When it is desired to exhibit the sections of the area C or A, the book is turned round 180° in the plan of Fig. 11, so that the inscription "front cover" $D^1$ row $B^1$ and $B^6$ stands inverted, whilst the other inscriptions stand upright. If the book is again opened on the right side, then the pairs of sections $C^1$, $C^2$ or $C^3$, $C^4$ *etc.* become visible upon the strips A, B, C, being folded together as above described. As a guide to these sections, other index flaps are used. In order to obtain a view of two sections together of the upper strip A, say $A^3$, $A^4$, the double sections $C^3$, $C^4$ are turned upwards as shown in Fig. 5. This is done easily, as the portions $C^3$ and $C^4$ are separated by the slits $a^1$ $a^1$ from the adjoining sections $C^2$ and $C^5$. At the same time, the section $A^3$, $A^4$ becomes free. If necessary $A^3$ and $A^4$ may then be somewhat raised from the map and the portion $C^3$, $C^4$ folded behind it.

Index flaps $A^1$, $^2$, $A^3$, $^4$, are also used as guides to the sections of strip A . . . . The flaps on $C^1$, $C^2$, $C^3$ $C^4$ . . . . and $A^1$, $A^2$, $A^3$, $A^4$ may in some cases be arranged on the upper and lower edge of the folded map.

In accordance with the foregoing, it is possible to refer to each section of the map by itself, without having to first unfold the whole map or any other portion thereof.

Furthermore it is also possible, with this map, to obtain a combination of two or three or four adjoining sections without any unnecessary trouble in unfolding. For instance, in order to inspect the area between sections $B^3$, $B^4$ of the strip B and the part $C^3$ $C^4$ of the strip C together it suffices to fold the map as shown in Fig. 3.

The maximum surface that it may be necessary to unfold, occurs, when it is desired to inspect the area round one of the corners *c*. For this purpose it is necessary for instance to unfold the sections $B^3$–$B^6$ and $C^3$—$C^6$ so as to uncover and open the parts $B^3$—$B^6$ hidden by the folded covers $D^1$ and $D^2$.

According to the foregoing it is unnecessary, with this map, to unfold a greater number of sections than it is desired to inspect, and the unfolding of the whole map becomes necessary only when it is desired to spread it out for actually obtaining a complete survey of it.

The slits *a* and $a^1$ contained in the strips A and C do not in the least interfere with the survey of the whole map, because the adjoining areas which always fit in with one another, entirely hide the slits.

The fundamental idea of this invention is embodied in a map which is folded in three strips, whilst said strips are themselves each divided by indents and

slits into eight sections. It is therefore manifest that the number of said sections may be increased at will in multiples of two.

Furthermore, it is also possible, in accordance with this invention, to fold maps having four or five strips A, B, C, and D, (Fig. 8) or A, B, C, D, E (Fig. 10) although the number three appears to be always the most suitable.

All these maps have this point in common, that any intermediate or central strips remains in one piece throughout, whilst all other strips are furnished with slits $a$, $a^1$, according to Fig. 1, which run from the edge of the map to the central strip which remains unslit. The central strip which remains unslit is therefore always attached to the cover $D^1$, $D^2$. The possibility of using a map consisting of two strips only is obvious without any further explanation. One strip is furnished with a slit $a$, in order to supply the means of conveniently inspecting the adjoining areas on the strips for each separate pair of sections.

Figs. 8 & 10 illustrate maps in which four or five cross strips are provided, divided into six sections.

Fig. 8 shews the strip B unslit, whilst all the others are slit. Behind the unslit strip B, the upper strip A and the lower strips C, D are folded back, so that the back sides of the map can lie on the top of each other as shewn in Fig. 9. This figure is a lateral view of the strips A, B, C, D which are now folded together and will presently be folded in accordion-like fashion. The sections of the strips A, B are visible at once upon folding together the accordion-like folds. In order to inspect the sections C, or D, (for instance, $C^{3,4}$,) the sections $A^{3,4}$ and $D^{3,4}$, which are superimposed upon one another, are folded upwards (Fig. 9) whereby the sections $C^{3,4}$ and $D^{3,4}$ become visible.

Fig. 10 illustrates the central strip C which has been left unslit. The strips A and E may be shorter, say, half as deep as the other strips.

The strips, A, B, as well as D, E, may although not to be recommended carry as many further strips at the top or at the bottom as may be desired, which are then all suitably subdivided by the slits, $a$, $a^1$. The upper and lower vertical grooves so produced then facilitate the folding together in accordion-like fashion and behind the unslit central strip C, as illustrated in Fig. 7 by the unbroken and dotted lines. The map folded at the top in this manner is finally folded together in accordion-like fashion, as above described.

It appears from the foregoing that it is immaterial whether the continuous central strips lie symmetrically with regard to the slit strips or not, although in all cases the unslit main strip must not be an end strip.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is.

1. A method of folding and unfolding maps, charts, *etc.* of any size divided by folds and joints, running at right angles to one another, into sections of the size finally assumed by the map when folded, the distinguishing feature whereof is that the sections of all the strips except a central section strip are slit into pairs and folded in pairs independent of one another on to the central section strip, and that the superimposed sections are then folded in accordion-like fashion in the manner substantially as and for the purposes set forth.

2. A system of carrying out the method specified in Claim 1 for maps of three horizontal strips and of any number of sections included in said strips, the distinguishing feature whereof is that the sections of the upper and lower strips are slit in pairs independent of one another and folded separately behind the central unslit strip and that the superimposed strips of sections are then folded in accordion-like fashion, substantially as set forth.

3. A system of carrying out the method specified in Claim 1 for maps of four horizontal strips and any number of sections included in said strips, the distinguishing feature whereof is that the uppermost strip and the two lowermost strips (or the lowest and the two uppermost strips) are slit in pairs independent

of one another and folded separately behind the unslit strip, and that the superimposed section strips are folded in accordion-like fashion, substantially as set forth.

4. A method of carrying out the index flap arrangement in maps according to Claim 1 with three horizontal strips, the distinguishing feature whereof is that the index flaps of the central unslit strip are arranged on the right side of the vertical map folded up, whilst the index flaps of the upper and lower strip are arranged inversely on the left side or the upper or the lower side of the map, substantially as set forth.

Dated 16th December 1907.

GEORGE DOWNING & SONS,
Chartered Patent Agents.
8 Quality Court, London, W.C.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1908.

1401

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

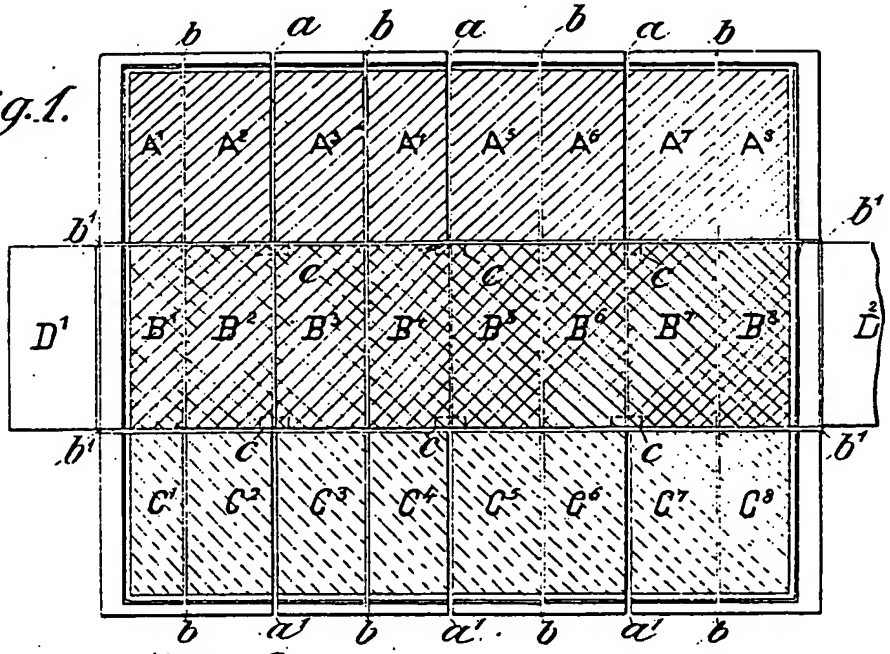
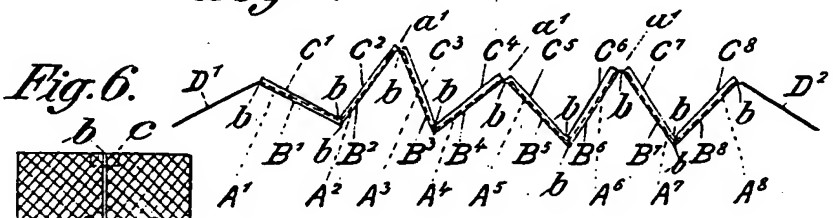



Fig. 2.

Fig. 6.



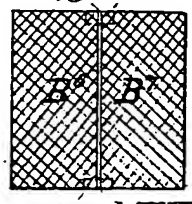




Fig. 3.

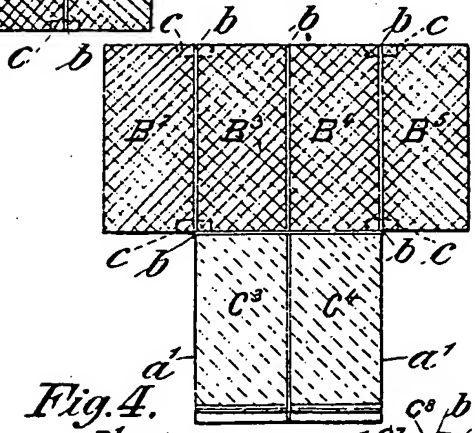



Fig. 5.

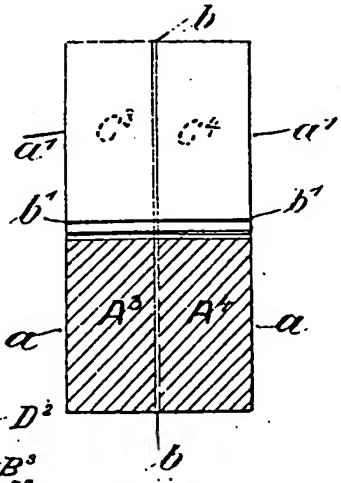
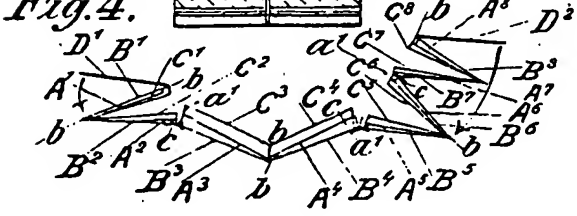
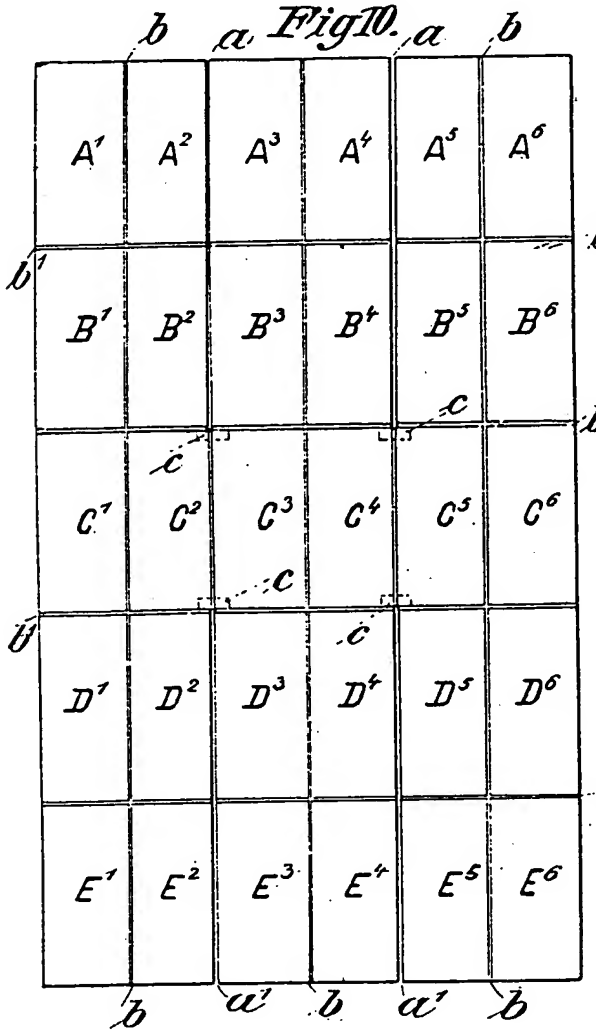



Fig. 4.




b a Fig10. a b
A1 A2 A3 A4 A5 A6
B1 B2 B3 B4 B5 B6
C1 C2 C3 C4 C5 C6
D1 D2 D3 D4 D5 D6
E1 E2 E3 E4 E5 E6
b1
c
b a1 b a1 b

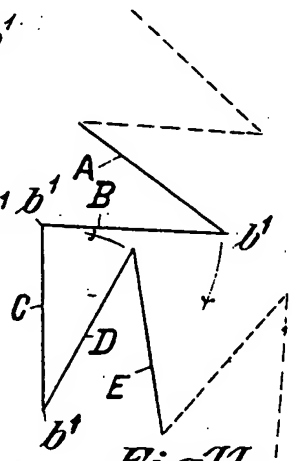


Fig. 7.
A
B
C
D
E
b1

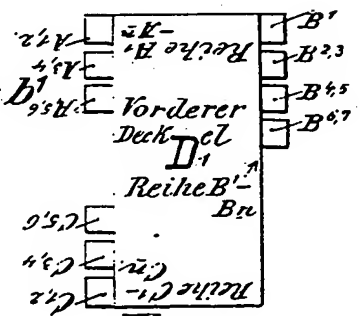
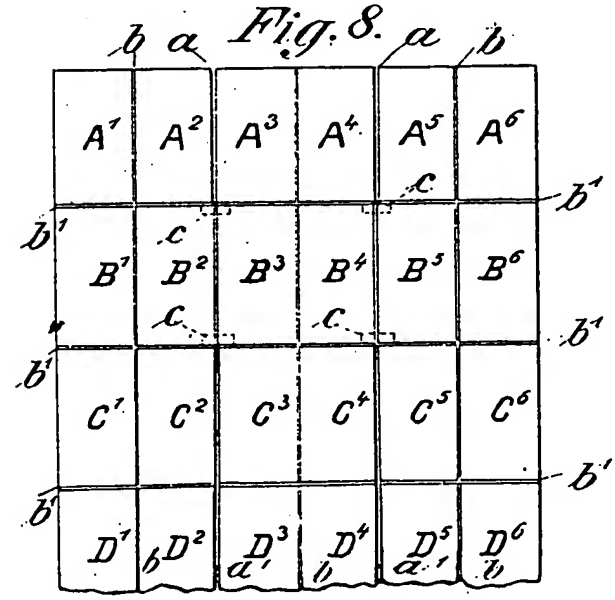
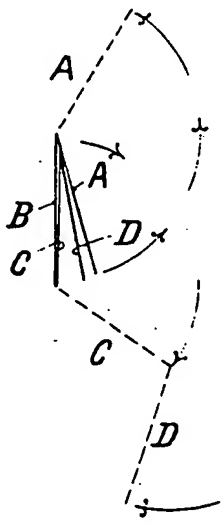


Fig11.
Vorderer Deck
Reihe B1-Bn
Reihe C1-Cn
B1
B2,3
B4,5
B6,7


b a Fig. 8. a b
A1 A2 A3 A4 A5 A6
B1 B2 B3 B4 B5 B6
C1 C2 C3 C4 C5 C6
D1 D2 D3 D4 D5 D6
c
b1
a1 b a1 b


A
B
C
D